

Application No. 09/915,760
Filed: July 26, 2001
TC Art Unit: 2636
Confirmation No.: 7473

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AMENDMENTS TO THE CLAIMS

Claims 1-13 (canceled)

1
Claim ~~14~~ (currently amended): A flexible tamper indicating transponder comprising a flexible transponder and ~~said an~~ adhesion modifying coating having a ~~of claim 1~~ composition comprising 5-97% polymer, 0-80% solvents, and 0.01-1.0% defoamer.

2
Claim ~~15~~ (currently amended): The flexible tamper indicating transponder of claim ~~14~~ comprising (a) a flexible substrate, (b) conductive tracks adhered to one or both surfaces of said flexible substrate, (c) an integrated circuit affixed to at least one surface of said flexible substrate, and (d) the adhesion modifying coating ~~of claim 1~~ applied to one or both surfaces of said flexible substrate.

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cont.

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Claim ~~16~~ (original): The flexible tamper indicating transponder of claim ~~15~~ ² wherein said substrate is selected from the group consisting of polyester, polyurethane, polyimide, polyetherimide, vinyl, nylon and paper.

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4
Claim ~~17~~² (original): The flexible tamper indicating transponder of claim ~~15~~ wherein said conductive tracks are polymer thick film inks, solid metal conductors, and transfer-laminated conductors.

5
Claim ~~18~~⁴ (original): The flexible tamper indicating transponder of claim ~~17~~ wherein said solid metal conductors are selected from the group consisting of silver, copper, and aluminum.

6
Claim ~~19~~⁴ (original): The flexible tamper indicating transponder of claim ~~17~~ wherein said polymer thick film inks are conductive inks consisting of conductive particles in a polymer binder said conductive particles selected from the group consisting of silver, copper, gold, carbon and graphite.

7
Claim ~~20~~⁴ (original): The flexible tamper indicating transponder of claim ~~17~~ wherein said transfer laminated conductors are inks consisting of conductive particles selected from the group consisting of silver and copper with and without a polymer binder.

8
Claim ~~21~~³ (original): The flexible tamper indicating transponder of claim ~~16~~ wherein said substrate is polyethylene terephthalate film.

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9

Claim ~~22~~² (original): The flexible tamper indicating transponder of claim ~~15~~ wherein said tamper track is a transfer laminated conductor attached to the substrate with a bonding adhesive, with no adhesion modifying coating present.

10

Claim ~~23~~⁹ (original): The flexible tamper indicating transponder of claim ~~22~~ wherein said bonding adhesive is patterned or solid.

11

Claim ~~24~~¹⁰ (original): The flexible tamper indicating transponder of claim ~~23~~ wherein an adhesion modifying coating is applied over or under the said tamper tracks.

12

Claim ~~25~~² (original): The flexible tamper indicating transponder of claim ~~18~~ wherein said adhesion modifying coating is applied directly to said substrate.

13

Claim ~~26~~² (original): The flexible tamper indicating transponder of claim ~~18~~ wherein said conductive tracks comprise tamper indicating tracks and an antenna coil.

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¹⁴
Claim ~~27~~² (original): The flexible tamper indicating transponder of claim ~~18~~, wherein said tamper indicating tracks are applied in contact with said adhesion modifying coating.

¹⁵
Claim ~~28~~² (original): The flexible tamper indicating transponder of Claim ~~18~~, wherein the said adhesion modifying coating is applied directly to the substrate; the said conductive tacks comprise tamper indicating tracks and the antenna coil; the tamper indicating tracks are applied in contact with said adhesion modifying coating.

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cont.
¹⁶
Claim ~~29~~ (original): The tamper indicating transponder of Claim ~~28~~¹⁵ wherein the said tamper indicating tracks comprise a portion or the entirety of said antenna coil.

¹⁷
Claim ~~30~~ (original): The tamper indicating transponder of Claim ~~28~~¹⁵ wherein said tamper tracks are independent from said antenna coil.

¹⁸
Claim ~~31~~ (currently amended): The tamper indicating transponder of ~~Claims~~ Claim ~~28~~¹⁵ wherein said antenna and integrated circuit are on the same side of the substrate as the said adhesion modifying coating and tamper indicating tracks.

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¹⁹
Claim ~~32~~ (currently amended): The tamper indicating transponder of ~~Claims~~ ⁵ ~~Claim 28~~ wherein said antenna and integrated circuit are on the opposite side of the substrate as the said adhesion modifying coating and tamper indicating tracks.

²⁰
Claim ~~33~~ (currently amended): The tamper indicating transponder of ~~Claims~~ ¹⁵ ~~Claim 28~~ wherein an adhesive is affixed to the said transponder in contact with the said tamper indicating tracks.

²¹
Claim ~~34~~ (original): The tamper indicating transponder of Claim ²⁰ ~~33~~ wherein the relative adhesion between the said adhesive, tamper indicating tracks, adhesion modifying layer and substrate is controlled by the pattern of the adhesion modifying layer.

²²
Claim ~~35~~ (original): The tamper indicating transponder of Claim ²¹ ~~34~~ wherein the said pattern of the said adhesion modifying layer contains one or more of the following features:

a solid coating pattern,

a pattern of regions with and without said adhesion modifying material,

a solid, contiguous border at the perimeter of said

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transponder,

a non-contiguous border at the perimeter of said transponder.

23

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Claim ~~36~~ (original): The tamper indicating transponder of Claim ~~36~~ wherein the said pattern of the said adhesion modifying layer is further comprised of one or more of the following features:

a grid pattern comprised of lines and gaps between them,

a grid pattern comprised of geometric shapes and gaps between them,

said grid pattern is orthogonal or angled relative to the transponder perimeter,

a variation in the density of said grid pattern achieved by varying the size of the lines, geometric shapes and/or the gaps between them,

larger geometric shapes in the said grid pattern wherein no adhesion modifying coating is applied.

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Claim ~~37~~ (currently amended): ~~A~~ The tamper indicating transponder of Claim ~~36~~ wherein the said pattern of the said adhesion modifying layer is further comprised of the following features:

a grid pattern comprised of lines and gaps,

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said grid pattern is applied at an angle relative to the said transponder perimeter,

a contiguous border at said transponder perimeter

one or more regions absent of said adhesion modifying coating,

region absent of said adhesion modifying coating position in alignment with one or more electronic devices, such as the RFID integrated circuit.

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²⁵
Claim ~~38~~ (original): A method for applying an adhesion modifying coating in a predetermined pattern on a tamper indicating transponder comprising an additive printing process.

²⁶
Claim ~~38~~ (original): The method of claim ²⁵~~38~~ wherein said additive printing process is selected from the group consisting of screen printing, roto-gravure and lithography.

²⁷
Claim ~~40~~ (original): A method for applying an adhesion modifying coating in a predetermined pattern on a tamper indicating transponder comprising a subtractive printing process.

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28

Claim ~~42~~ (original): The method of claim ~~40~~ wherein said subtractive printing process comprises (1) applying a uniform coating of said adhesion modifying coating on a surface of said transponder, (2) applying a mask with the image of the desired pattern of said coating, (3) curing said coating, and (4) removing the unwanted coating.

29

Claim ~~42~~ (original): An electrically conductive ink for use in a tamper indicating transponder of claim ~~1~~, said ink selected from the group consisting of polymer thick film inks, inks with or without adhesive, inks comprising conductive particles, and transfer laminated inks.

30

Claim ~~43~~ (original): The electrically conductive ink of claim ~~42~~ wherein said conductive particles are selected from the group consisting of silver, copper, gold, carbon and graphite.

29

31

Claim ~~44~~ (original): An adhesion modifying coating for a tamper indicating transponder, said coating affecting the destruction of an electrically conducting material in said transponder, wherein said coating is applied before the application of said electrically conducting material.

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32

Claim ~~48~~ (original): An adhesion modifying coating for a tamper indicating transponder, said coating affecting the destruction of an electrically conducting material in said transponder, wherein said coating is applied after the application of said electrically conducting material.

33

Claim ~~48~~ (original): The adhesion modifying coating of claim ~~41~~, wherein said coating comprises varnish, silicone, or ink.

31**34**

Claim ~~41~~ (original): The adhesion modifying coating of claim ~~48~~, wherein said coating comprises varnish, silicone, or ink.

32**35**

Claim ~~48~~ (original): A method of applying an adhesion modifying coating to a tamper indicating transponder used as a label component, so that said transponder will indicate whether an attempt has been made to tamper with said label, said method comprising applying said coating as a pattern of straight or curved lines, circles, dots, or other geometric shapes, said patterns optionally being interconnected.

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³⁶
Claim ~~49~~ (original): The method of applying the adhesion modifying coating of claim ~~48~~³⁵ wherein said pattern is selected from the group consisting of a straight line square grid, a pattern oriented at different angles relative to the pattern of electrically conducting material, and a pattern having varying line widths and spaces between lines.

³⁷
Claim ~~50~~ (original): The method of applying said adhesion modifying coating of claim ~~42~~²⁸, wherein said coating is cured via thermal curing, curing by Ultraviolet or visible light and electron radiation.

³⁸
Claim 51 (canceled)

Claim ~~52~~ (previously presented): A method for modifying the destructibility properties of destructible tamper indicating tracks used in a tamper indicating transponder label, wherein said modification involves changing the formulation of an adhesive modifying coating material.

Claim 53 (canceled)

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Claim ~~54~~³ (original): The flexible tamper indicating transponder of claim ~~16~~³ wherein only a single layer of one substrate is used.

40
Claim ~~55~~³ (original): The flexible tamper indicating transponder of claim ~~16~~³ wherein multiple layers of substrate are used.

41
Claim ~~56~~⁴⁰ (original): The flexible tamper indicating transponder of claim ~~56~~⁴⁰ wherein said multiple layers are made of the same substrate.

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cont.
42
Claim ~~57~~⁴⁰ (original): The flexible tamper indicating transponder of claim ~~56~~⁴⁰ wherein said multiple layers are made of different substrates.

[Claim 58-59 (canceled)

43
Claim ~~60~~⁴ (currently amended): A The flexible tamper indicating transponder of claim ~~57~~⁴, wherein two or more transponders are incorporated onto a single substrate.

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44
Claim ~~61~~ (currently amended): A—The flexible tamper indicating transponder of claim ~~60~~⁴³, wherein said transponders operate at two or more frequencies or protocols.

45
Claim ~~62~~ (currently amended): A—The tamper indicating transponder of claim ~~15~~² wherein the integrated circuit may be active or passive.

46
Claim ~~63~~ (currently amended): A—The tamper indicating transponder of claim ~~62~~⁴⁵ comprising one or more electronic components in addition to said integrated circuit.

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47
Claim ~~64~~ (currently amended): The flexible tamper indicating transponder of claim ~~14~~¹ comprising (a) flexible substrate, (b) conductive tracks adhered to one or both surfaces of said flexible substrate, and (c) the adhesion modifying coating ~~of claim 1~~ applied to one or both surfaces of said flexible substrate.

48
Claim ~~65~~ (currently amended): A—The tamper indicating circuit construction of claim ~~64~~⁴⁷ comprising one or more electronic components attached to said conductive tracks.

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